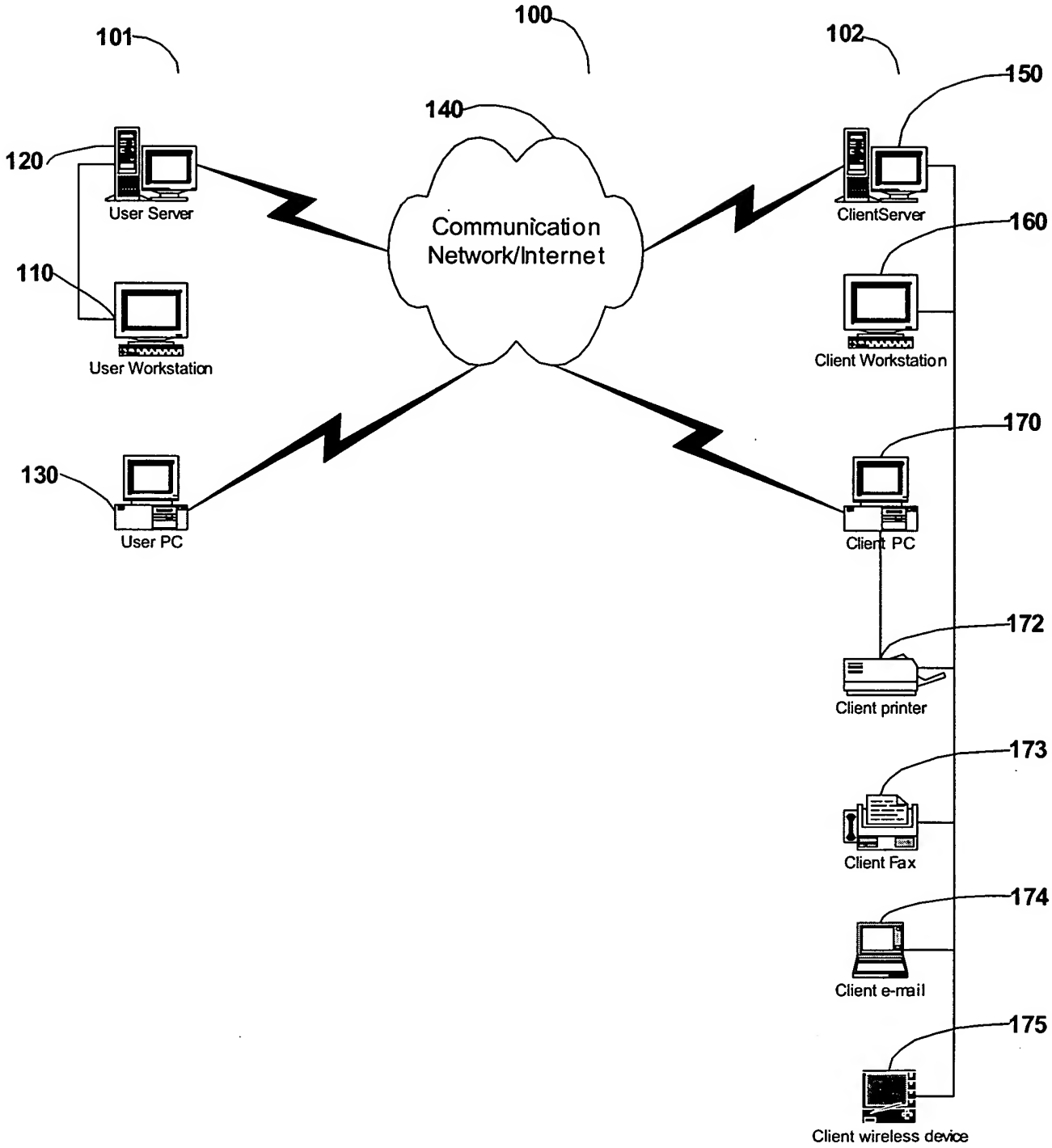

101
100
102
140
150
120
User Server
Communication
Network/Internet
ClientServer
110
160
User Workstation
Client Workstation
170
130
User PC
Client PC
172
Client printer
173
Client Fax
174
Client e-mail
175
Client wireless device

FIG. 1

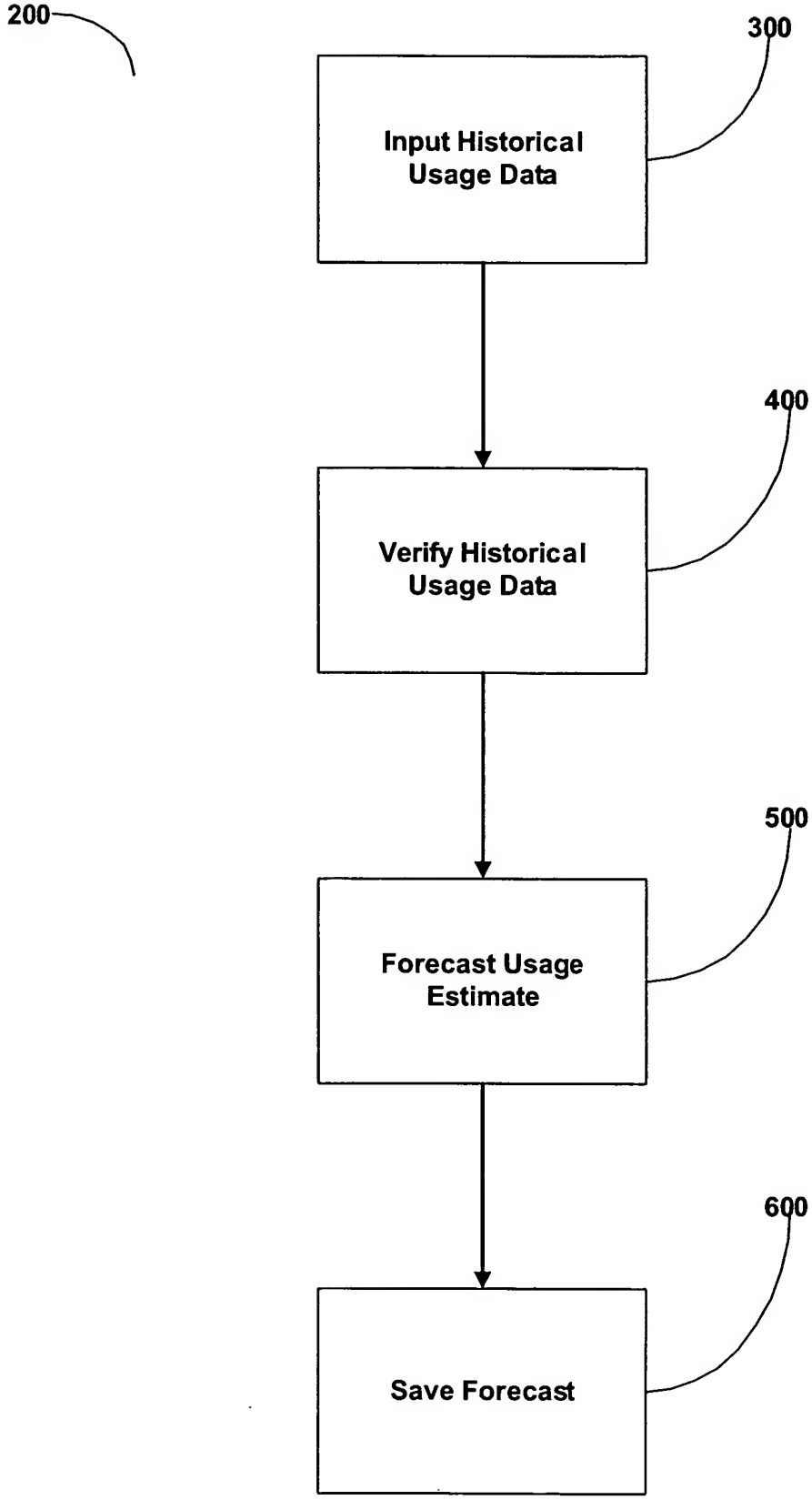

200
300
Input Historical Usage Data
400
Verify Historical Usage Data
500
Forecast Usage Estimate
600
Save Forecast

FIG.2

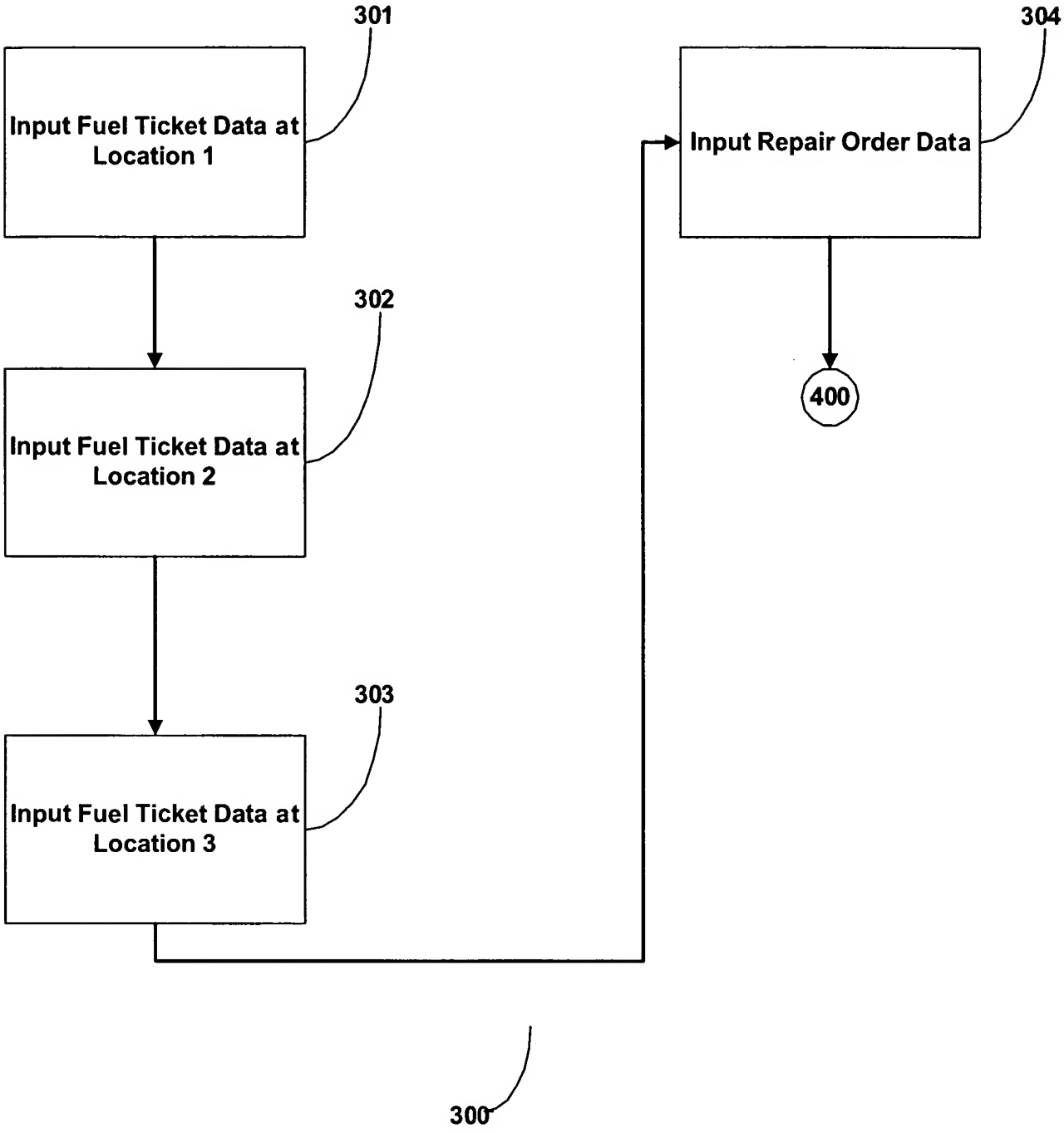

301
Input Fuel Ticket Data at Location 1
302
Input Fuel Ticket Data at Location 2
303
Input Fuel Ticket Data at Location 3
304
Input Repair Order Data
400
300

FIG.3

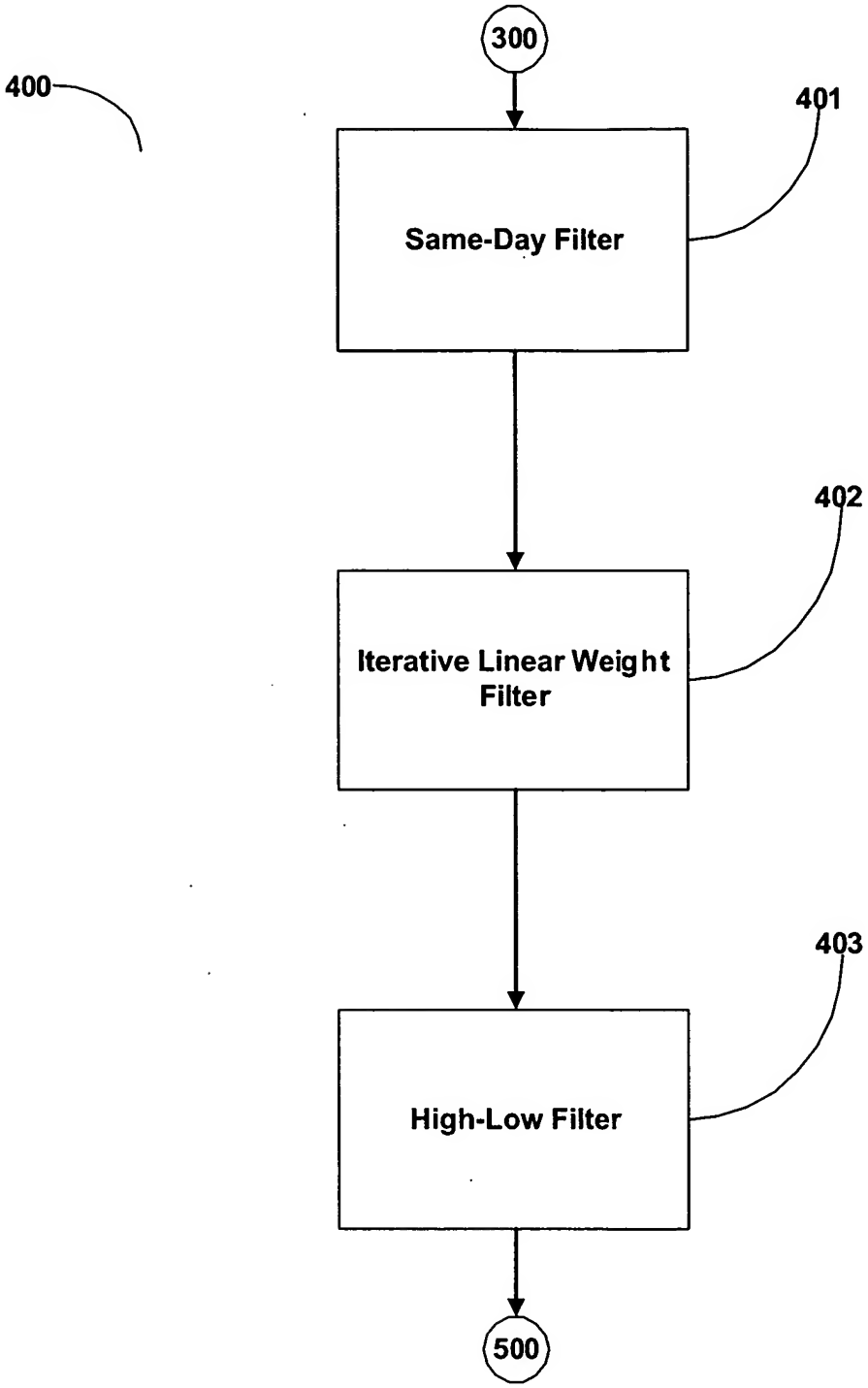

300
400
401
Same-Day Filter
402
Iterative Linear Weight Filter
403
High-Low Filter
500

FIG.4

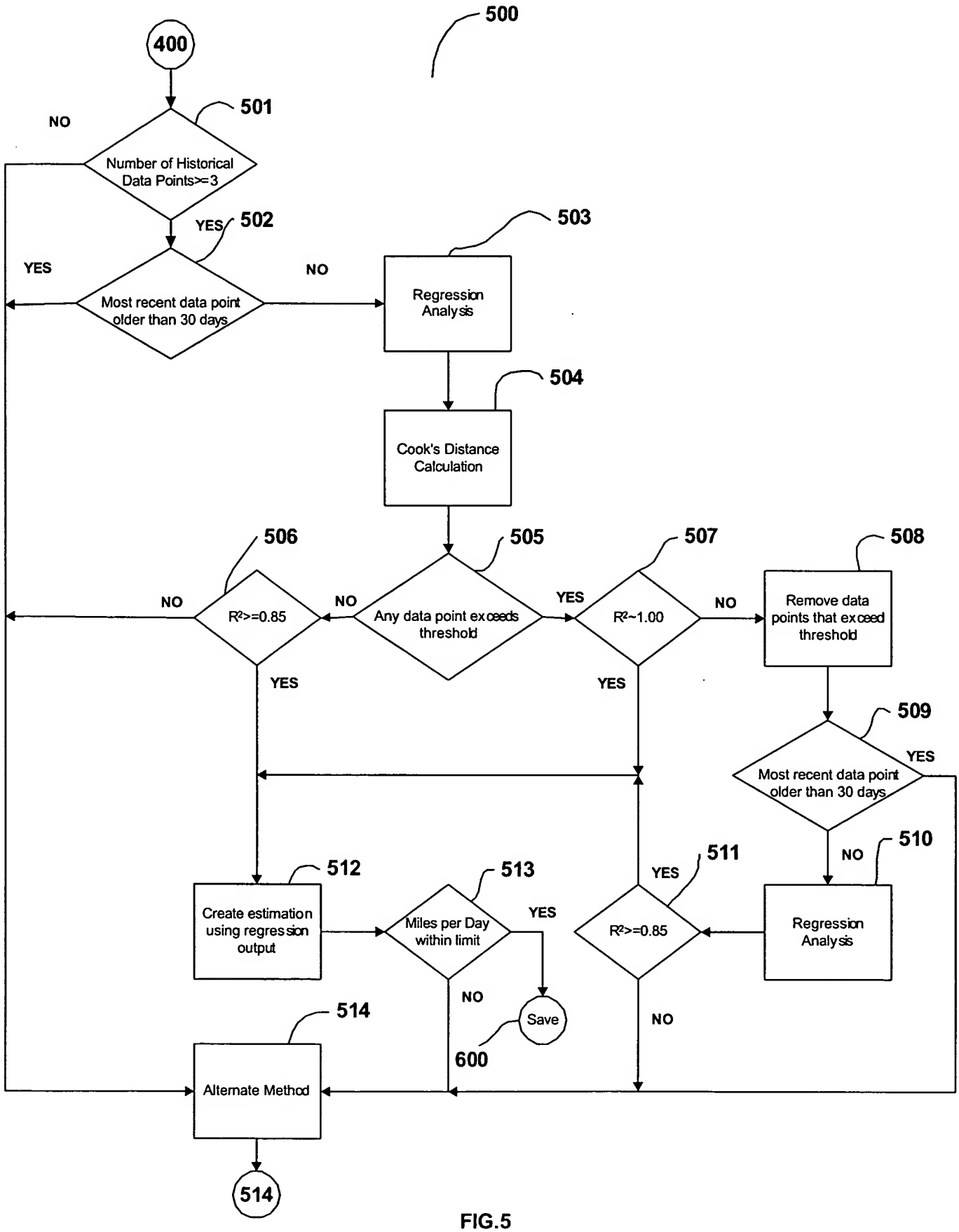

500
400
501
NO
Number of Historical Data Points>=3
YES
502
YES
Most recent data point older than 30 days
NO
503
Regression Analysis
504
Cook's Distance Calculation
505
Any data point exceeds threshold
NO
506
R²>=0.85
NO
YES
507
R²~1.00
NO
YES
508
Remove data points that exceed threshold
509
Most recent data point older than 30 days
YES
NO
510
Regression Analysis
511
R²>=0.85
YES
NO
512
Create estimation using regression output
513
Miles per Day within limit
YES
NO
Save
600
514
Alternate Method
514

FIG.5

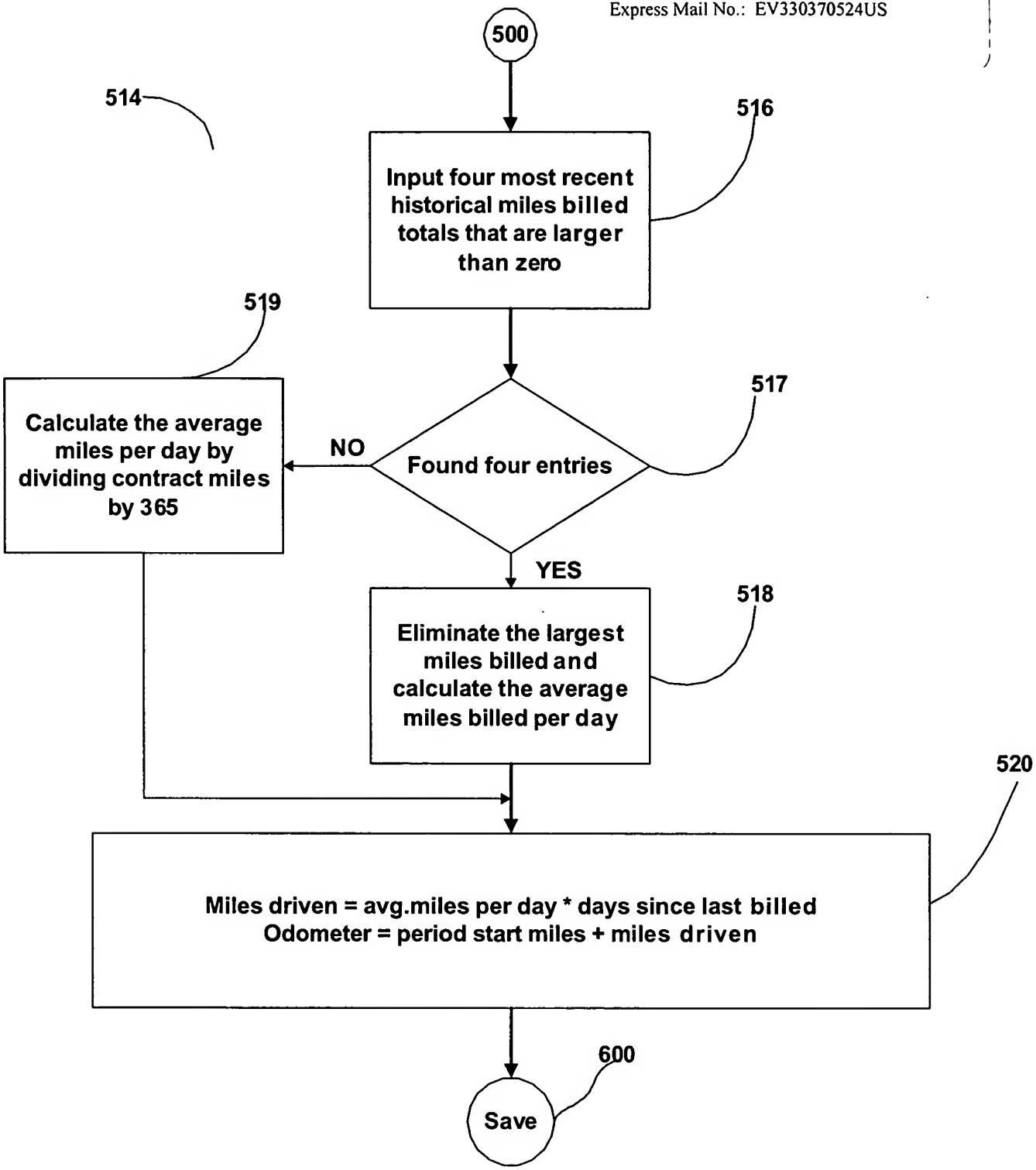

500
514
516
Input four most recent historical miles billed totals that are larger than zero
519
Calculate the average miles per day by dividing contract miles by 365
NO
517
Found four entries
YES
518
Eliminate the largest miles billed and calculate the average miles billed per day
520
Miles driven = avg.miles per day * days since last billed
Odometer = period start miles + miles driven
600
Save

FIG.6

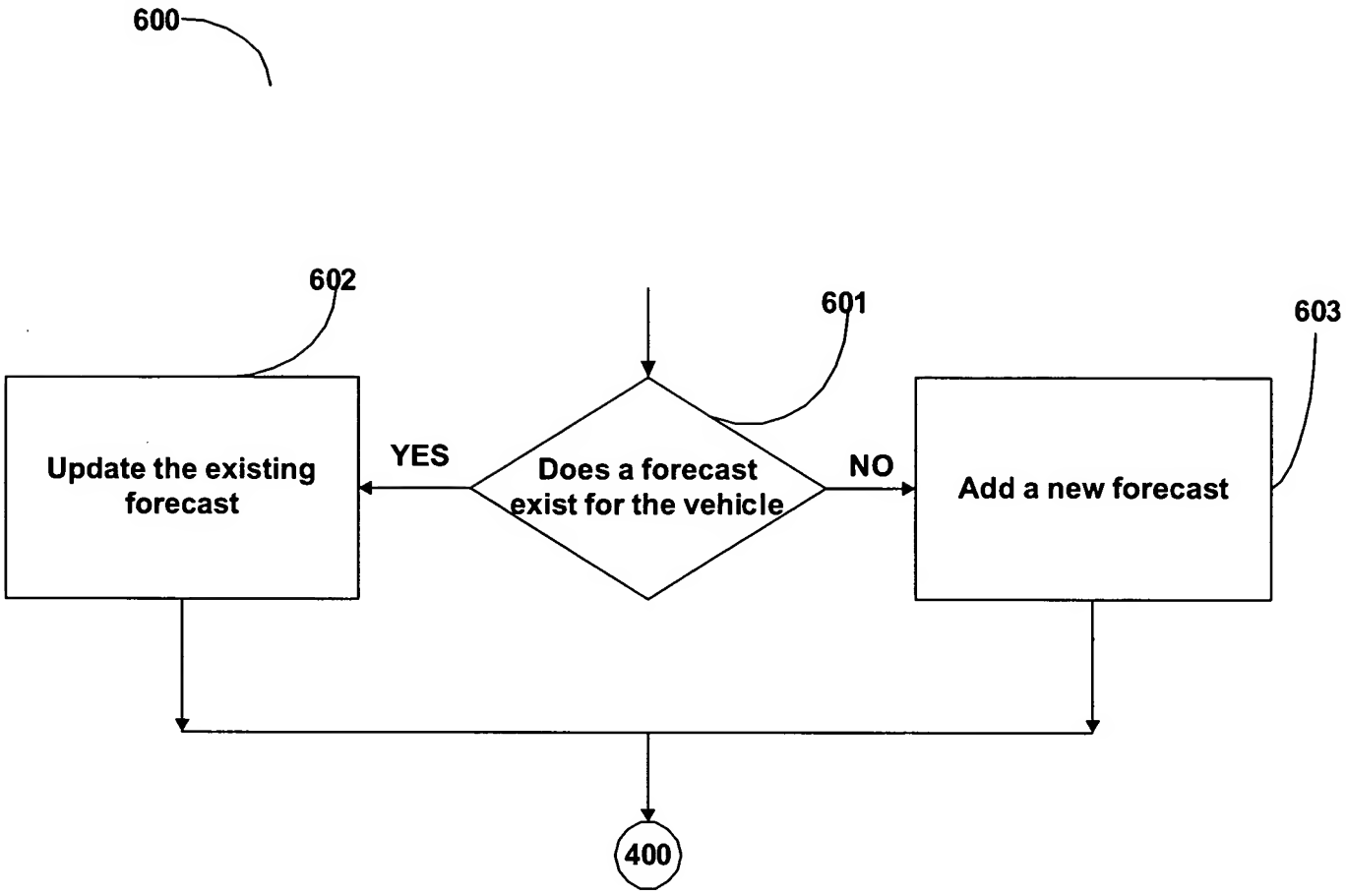

600
602
601
603
Update the existing forecast
YES
Does a forecast exist for the vehicle
NO
Add a new forecast
400

FIG.7

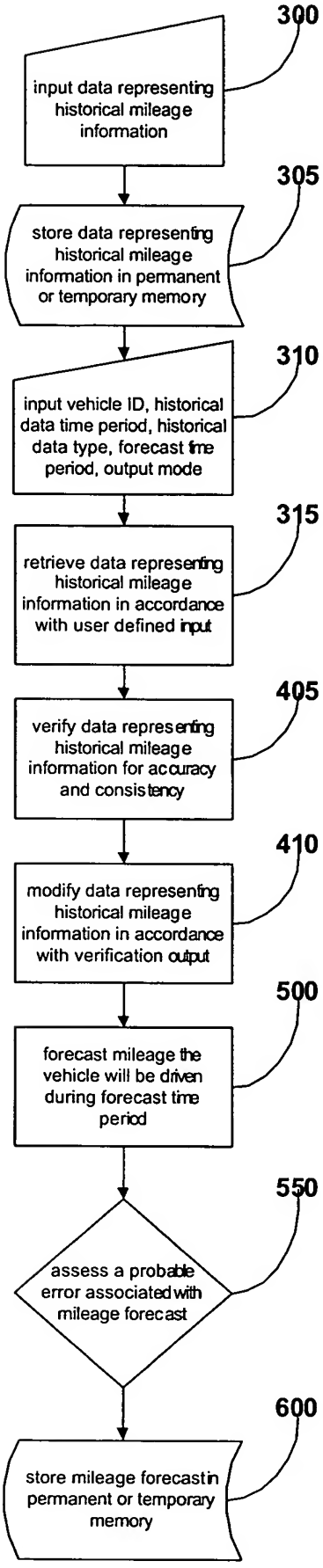


FIG.8A

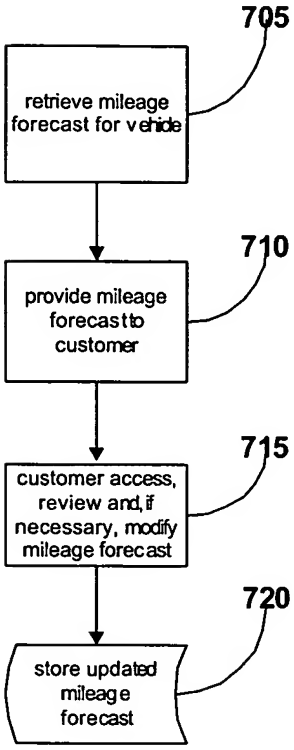


FIG.8B

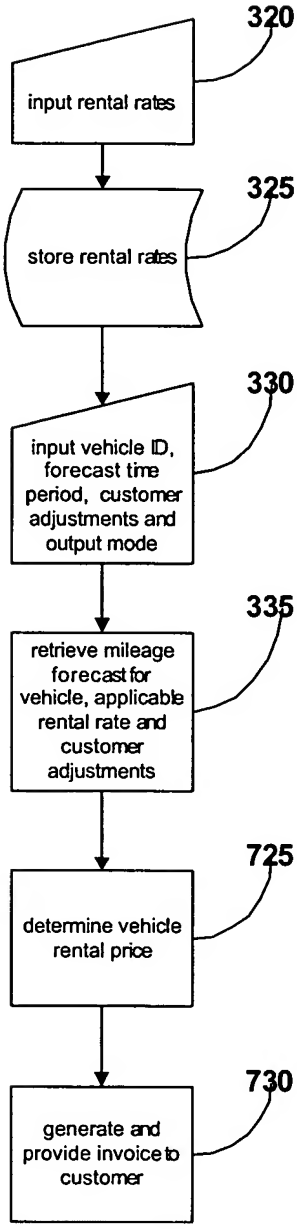


FIG.8C

FIG 9A

FIG 9B

Iteration 1 – Max. Weight 27				Iteration 2- Max. Weight 27		
Date	Miles	Weight		Date	Miles	Weight
Mar 15 08:15:00	4644.0	0				
Mar 13 09:30:58	40247.0	26		Mar 13 09:30:58	40247.0	26
Mar 13 00:00:00	40247.0	26		Mar 13 00:00:00	40247.0	26
Mar 11 15:35:17	39844.0	27		Mar 11 15:35:17	39844.0	26
Mar 08 00:00:00	39464.0	27		Mar 08 00:00:00	39464.0	26
Mar 06 09:46:52	39025.0	27		Mar 06 09:46:52	39025.0	27
Mar 04 10:47:39	38613.0	27		Mar 04 10:47:39	38613.0	27
Feb 28 13:47:00	38265.0	27		Feb 28 13:47:00	38265.0	27
Feb 27 08:36:08	37843.0	26		Feb 27 08:36:08	37843.0	26
Feb 27 00:00:00	37843.0	26		Feb 27 00:00:00	37843.0	26
Feb 25 14:57:00	37476.0	27		Feb 25 14:57:00	37476.0	27
Feb 22 11:05:00	37149.0	26		Feb 22 11:05:00	37149.0	26
Feb 22 00:00:00	37149.0	26		Feb 22 00:00:00	37149.0	26
Feb 19 12:12:00	36574.0	27		Feb 19 12:12:00	36574.0	27
Feb 18 10:59:36	36217.0	27		Feb 18 10:59:36	36217.0	27
Feb 14 10:17:17	35766.0	27		Feb 14 10:17:17	35766.0	27
Feb 13 08:23:00	35476.0	27		Feb 13 08:23:00	35476.0	27
Feb 11 15:23:21	5048.0	16		Feb 11 15:23:21	5048.0	16
Feb 08 09:06:27	34752.0	26		Feb 08 09:06:27	34752.0	26
Feb 06 12:13:00	34426.0	26		Feb 06 12:13:00	34426.0	26
Feb 05 07:50:18	33974.0	26		Feb 05 07:50:18	33974.0	26
Jan 31 09:42:00	33459.0	26		Jan 31 09:42:00	33459.0	26
Jan 29 11:11:00	33109.0	26		Jan 29 11:11:00	33109.0	26
Jan 28 02:40:00	32755.0	25		Jan 28 02:40:00	32755.0	25
Jan 28 00:00:00	32843.0	25		Jan 28 00:00:00	32843.0	25
Jan 24 08:44:00	32362.0	26		Jan 24 08:44:00	32362.0	26
Jan 22 12:01:00	31972.0	26		Jan 22 12:01:00	31972.0	26
Jan 21 07:47:00	31582.0	26		Jan 21 07:47:00	31582.0	26
Jan 16 10:38:21	31158.0	26		Jan 16 10:38:21	31158.0	26

808
801
802
810
803 804 805 806 802 803 804 805 806

FIG 9C

FIG 9D

Iteration 3 – Max. Weight 26				Iteration 4- Max. Weight 18		
Date	Miles	Weight		Date	Miles	Weight
Mar 13 09:30:58	40247.0	25				
Mar 13 00:00:00	40247.0	25				
Mar 11 15:35:17	39844.0	26		Mar 11 15:35:17	39844.0	18
Mar 08 00:00:00	39464.0	26		Mar 08 00:00:00	39464.0	18
Mar 06 09:46:52	39025.0	26		Mar 06 09:46:52	39025.0	18
Mar 04 10:47:39	38613.0	16		Mar 04 10:47:39	38613.0	18
Feb 28 13:47:00	38265.0	26		Feb 28 13:47:00	38265.0	18
Feb 27 08:36:08	37843.0	25				
Feb 27 00:00:00	37843.0	25				
Feb 25 14:57:00	37476.0	26		Feb 25 14:57:00	37476.0	18
Feb 22 11:05:00	37149.0	25				
Feb 22 00:00:00	37149.0	25				
Feb 19 12:12:00	36574.0	26		Feb 19 12:12:00	36574.0	18
Feb 18 10:59:36	36217.0	26		Feb 18 10:59:36	36217.0	18
Feb 14 10:17:17	35766.0	26		Feb 14 10:17:17	35766.0	18
Feb 13 08:23:00	35476.0	26		Feb 13 08:23:00	35476.0	18
Feb 08 09:06:27	34752.0	26		Feb 08 09:06:27	34752.0	18
Feb 06 12:13:00	34426.0	26		Feb 06 12:13:00	34426.0	18
Feb 05 07:50:18	33974.0	26		Feb 05 07:50:18	33974.0	18
Jan 31 09:42:00	33459.0	26		Jan 31 09:42:00	33459.0	18
Jan 29 11:11:00	33109.0	26		Jan 29 11:11:00	33109.0	18
Jan 28 02:40:00	32755.0	25				
Jan 28 00:00:00	32843.0	25				
Jan 24 08:44:00	32362.0	26		Jan 24 08:44:00	32362.0	18
Jan 22 12:01:00	31972.0	26		Jan 22 12:01:00	31972.0	18
Jan 21 07:47:00	31582.0	26		Jan 21 07:47:00	31582.0	18
Jan 16 10:38:21	31158.0	26		Jan 16 10:38:21	31158.0	18

801
810
802
811
811
811
811
803 804 805 806 802 803 804 805 806

FIG 10A

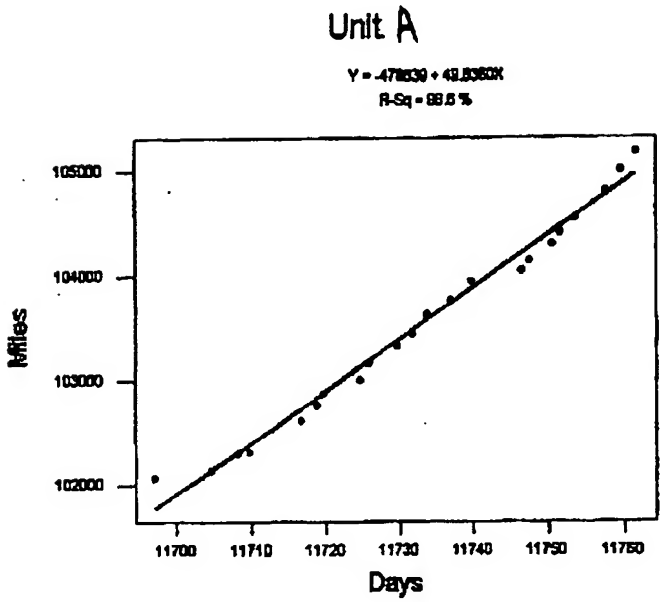

Unit A
Y = -478639 + 43.8060X
R-Sq = 98.5 %
105000
104000
103000
102000
Miles
11700
11710
11720
11730
11740
11750
11760
Days

FIG 10B

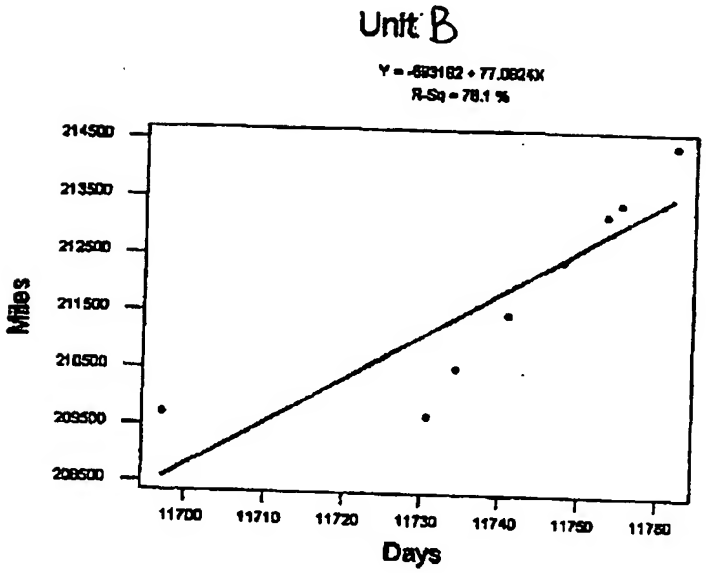
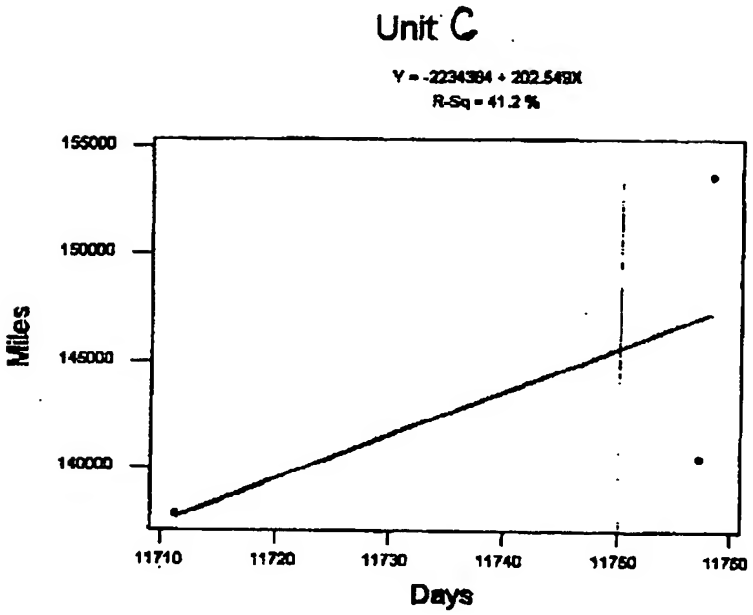

Unit B
Y = -693162 + 77.0624X
R-Sq = 78.1 %
214500
213500
212500
211500
210500
209500
208500
Miles
11700
11710
11720
11730
11740
11750
11760
Days

FIG 10C


Unit C
Y = -2234384 + 202.549X
R-Sq = 41.2 %
155000
150000
145000
140000
Miles
11710
11720
11730
11740
11750
11760
Days